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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/576,847	03/19/2007	David H. McFadden	54330/328845	2283

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EXAMINER

LEUNG, PHILIP H

ART UNIT	PAPER NUMBER
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3742

MAIL DATE	DELIVERY MODE
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04/24/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/576,847	Applicant(s) MCFADDEN, DAVID H.	
	Examiner PHILIP H. LEUNG	Art Unit 3742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 February 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 and 31-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 and 31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2-12-2008</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-27, 29, 31-34, 36 and 37 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term “at least one waveguide” at line 7 of claims 1, 17 and 22 is unclear. It is not known if this “at least one waveguide” is one of the “at least two waveguides” recited at line 6 of each of claims 1, 17 and 22 or there are at least three different waveguides altogether. Consequently, it is not clear which “waveguide(s)” the terms “the waveguide”, “each waveguide” and “said waveguide(s)” are referring to. Note the difference between these claims and claim 28. Clarification and correction are required.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 1-4, 22, 26, 28, 29 and 32-36 are rejected under 35 U.S.C. 103(a) as being obvious over Dobie (US 7,087,872, its PCT was published on 10-26-2000) (newly cited), in view of Bakanowski et al (US 4,464,554) (previously cited by the applicant).

Dobie shows a speed cooking oven for cooking a food product by hot gas and microwave energy, comprising: an oven cavity 18; at least one cooking rack 20, 22, 24; at least one magnetron 210 for generating microwaves; at least one two rectangular waveguides 212 operably associated with the at least one magnetron, at least one waveguide having a proximal end near the magnetron, an opposing distal end, and a longitudinal chamber waveguide axis; at least one slot 200 in each waveguide having a center point disposed along a longitudinal slot axis, wherein the at least one slot in each waveguide is configured such that a substantially uniform microwave pattern is achieved without using a mechanical phase-altering device (see col. 1, lines 41-49); wherein said waveguides are configured for launching microwave energy through respective slots and into the oven cavity from opposing sides of the cavity; and wherein the oven is operable for launching hot gas into the oven cavity from said opposing sides of the cavity (with the use of ducts 62)(see all embodiments). It therefore shows every feature except for the slot having a slot length along a said longitudinal slot axis that is less than 0.5 free space wavelength. Bakanowski shows a microwave cooking oven (10) comprising an oven cavity (24), at least one cooking rack (37), a single magnetron (40), two opposing rectangular waveguide chambers (46, 50) each with a plurality of radiating slots of less than half free space wavelength (col. 7, line 58 - col. 8, line 4). It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Dobie to use waveguide slots with a length of less than half wavelength so that the slots are non-resonant to prevent standing waves for more

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uniform microwave distribution pattern to achieve better heating result, in view of the teaching of Bakanowski. The exact arrangement of the waveguide and the hot air input would have been a matter of engineering expediencies depending on the overall structure of the microwave chamber. Furthermore, the clause “wherein the oven is operable for launching hot gas into the oven cavity from said opposing sides of the cavity” is only an intended function without any corresponding structure to perform the same.

5. Claims 5-16, 23-25, 31 and 37 are rejected under 35 U.S.C. 103(a) as being obvious over Dobie (US 7,087,872), in view of Bakanowski et al (US 4,464,554), as applied to claims 1-4, 22, 26, 28, 29 and 32-36 above, and further in view of Blass et al (US 2,704,802) or Smith (US 3,210,511) (both previously cited by the applicant).

As shown above, Dobie combined with Bakanowski shows every feature as claimed (see Figures 2-6 and col. 4, line 46 - col. 8, line 39) except for the exact arrangement of the slots. Blass shows a microwave oven having a waveguide 14 with slanted radiating slots 19 (see Figures 1-6 and col. 1, line 80 - col. 3, line 48). Smith also shows a microwave oven with two rectangular waveguides each with a radiating slot offset from each other (see Figures 1-3 and col. 1, line 47 - col. 2, line 42). It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Dobie combined with Bakanowski to use slanted slots for more uniform radiating patterns and better cooking result, in view of the teaching of Blass or Smith. The exact size and pattern of the slots would have been a matter of engineering expediency following the teaching of these references.

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6. Claims 17-21 and 27 are rejected under 35 U.S.C. 103(a) as being obvious over Dobie (US 7,087,872), in view of Bakanowski et al (US 4,464,554), as applied to claims 1-4, 22, 26, 28, 29 and 32-36 above, and further in view of Meredith (US 5,369,250) (previously cited by the applicant).

As shown above, Dobie combined with Bakanowski shows every feature as claimed (see Figures 2-6 and col. 4, line 46 - col. 8, line 39) except for the use of a slot cover for sealing the slots. Meredith shows a microwave heating device with a waveguide 6 having slots 7-11 and the slots are covered with a sheet of a dielectric material (see Figures 3-6, col. 2, lines 7-17 and col. 5, lines 12-19). It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Dobie combined with Bakanowski to use a cover for sealing the radiating slots to prevent contamination of the waveguide and for better impedance matching, in view of the teaching of Meredith. The exact material of the cover would have been a matter of mere design variations.

7. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip H. Leung whose telephone number is (571) 272-4782.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tu Hoang can be reached on (571)-272-4780. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Philip H Leung/

Primary Examiner, Art Unit 3742

P.Leung/pl

4-22-2008